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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,432	04/06/2001	Alexandre M. Izmailov	49493-286	6093

28441 7590 11/28/2007  
BRINKS HOFER GILSON & LIONE  
UTAH OFFICE  
405 South Main Street  
Suite 800  
SALT LAKE CITY, UT 84111-3400

EXAMINER
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LY, CHEYNE D

ART UNIT	PAPER NUMBER
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-2168

MAIL DATE	DELIVERY MODE
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11/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/827,432

Applicant(s)

IZMAILOV ET AL.

Examiner

Cheyne D. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date November 20, 2007.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_



### **DETAILED ACTION**

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. The sequence listing, filed September 20, 2007, has been entered.
3. Claims 14-30 are examined on the merits.

### **RESPONSE TO ARGUMENTS**

4. The rejections of record have been withdrawn; therefore, Applicant's argument directed to withdrawn rejections are moot.

### **CLAIM REJECTIONS - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 14-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilchrist et al. (WO 98/00708) (Gilchrist hereafter).
7. It is noted the reference has been provided in the previous Office Action, mailed September 12, 2006.
8. In regard to claim 14, Gilchrist discloses a method for alignment of a plurality of data traces indicative of the positions of a plurality of nucleic acid base types in a target nucleic acid sequence (Abstract, etc.), comprising the steps of:

(a) selecting for each data trace one or more points corresponding to an internal peak associated with internal bases that are highly conserved in the target nucleic acid (page 5,

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lines 5-14, e.g. identification of peaks in each of several (generally four) data traces, page 7, line 3, e.g. searched for peaks), and further selecting alignment points selected from the group consisting of a primer peak associated unextended primer (page 7, lines 11-16, e.g. primer peak...unreacted primer), a full-length peak associated with full length product produced during a cyclic primer extension reaction with two primers and assigning to each alignment point a reference position number reflecting the relative position of the alignment point with respect to the sequence as a whole (page 7, line 16, their location relative to the start and end of the electrophoresis process, and Figures 2 and 3);

(b) assigning a sequence position number to each peak in each of the plurality of data traces that maximizes the number of times that the sequence position number and the reference position number are assigned to a base of the same type (page 7, line 16, their location relative to the start and end of the electrophoresis process, and Figures 3); and

(c) aligning the data traces based on the assigned sequence position numbers (Figures 6A, 6B, and Figure 7).

9. In regard to claims 15-17 and 22-30, Gilchrist discloses the heterogeneous multiplets and four data traces, one for each nucleotide based type (page 7, line 21, e.g. heterozygotes).

10. In regard to claims 18-21, Gilchrist discloses the claimed invention as cited above.

Further, Gilchrist discloses “using the three-point method segment the data trace” (page 7, line 6), and “average peak spacing” (page 9, lines 9-22, e.g. standard deviation which is well known to require an average calculation).

## **CONCLUSION**

11. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

12. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

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14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

/Cheyne D. Ly/  
C. Dune Ly  
Primary Examiner  
11/26/2007